

ST. BARTHOLOMEW'S HOSPITAL JOURNAL

Vol. LXII

OCTOBER 1958

No. 10

EDITORIAL

Mention of the problems of medical education seldom fails to stimulate some form of lively discussion. Few other subjects are of such equal concern to all sections of the medical community. Widespread interest in this subject may account for the continual reviews and gradual, albeit conservative, alterations of the various educational systems at present practised in this country.

Conservatism is often mistakenly confused with tradition when attempting a reformation of any such venerable institution as our own Royal Hospital. The rapid scientific advances of the mid-twentieth century present a challenge to teacher and pupil alike. Undue procrastination in such a changing era could terminate in oblivion within a sea of ignorance and prejudice. It is a sincere hope that the pre-clinical and clinical departments of this Hospital will continue to keep abreast, if not ahead, of the current trends in medical education.

It appears common knowledge, amongst the junior members of the Hospital, that the Medical College is anticipating a change of the present curriculum. However, the intimate details of this revision are matters for conjecture and speculation. Now, when it may still be possible to influence the ultimate decision of the formulators of Hospital policy, the *Journal* is in a position to publish the first results of the Questionnaire ; namely those regarding education.

naire ; namely those regarding education.

Perhaps the most far-reaching single change so far envisaged would be the inclusion of Pathology and Bacteriology in the Bart's preclinical course. Extension of the pre-clinical course may lead to natural resentment amongst the London students. Apart from personal and teaching considerations, such a course of action would lead to easier integration and more satisfactory teaching of the clinical students who are derived from the three main pre-clinical sources ; London, Oxford and Cambridge. Furthermore, instruction in clinical Pathology and Bacteriology could then become more constructive and not, as at present, restricted to a compromise because fifty per cent of students have already completed an intensive theoretical course in these two subjects. The present unsatisfactory state of affairs is reflected by the lack of enthusiasm, as shown by the results of the Questionnaire, for the teaching of these two subjects.

An even more complete integration of clinical and pre-clinical subjects was hinted at in the Questionnaire:

"In some medical schools the teaching of clinical and pre-clinical subjects has been integrated ; i.e., the clinical conditions and associated pathology produced by diseases of an organ or system are studied at the same time as its Anatomy and Physiology. Do you think the teaching at Bart's should be."

Results : 38 for complete integration.
141 remain as at present.
187 partially integrated.

Two other results may influence future decisions. Two hundred and ninety-seven people were in favour of an individual tutorial system as part of the teaching, whereas only 40 were undecided, and 39 against. Three hundred and thirteen people thought that a course in General Practice, giving practical experience of the duties of a

G.P., was an essential part of the curriculum. Twenty-four people opposed such a course of action, and 39 were undecided.

College authorities might be interested to know how and why people voted for the best and worst taught subjects. The departments of Gynaecology and Obstetrics may well be proud to learn that 47 people in their third clinical year voted these departments as the best for teaching. Only 10 votes were collected by the other 30 departments.

EXTERNAL BEAUTY

A great deal of time, money and effort are being expended in an attempt to "brighten up" the entrance hall of the Hospital Library. Those people who venture past the entrance hall and enter the main body of the library will anticipate that the Hospital's aesthetic sense will extend to include the much needed improvement of the library itself.

CALENDAR

October

Sat., 4th.—Dr. E. R. Cullinan on duty.
Mr. J. P. Hosford on duty.
Mr. C. Langton Hewer on duty.

Sat., 11th.—Medical and Surgical Units on duty.
Mr. G. H. Ellis on duty.

Sat., 18th.—Dr. Graham Hayward on duty.
Mr. A. H. Hunt on duty.
Mr. F. T. Evans on duty.

Sat., 25th.—Dr. A. W. Spence on duty.
Mr. C. Naunton Morgan on duty.
Mr. R. A. Bowen on duty.

November

Sat., 1st.—Dr. Bodley-Scott on duty.
Mr. A. W. Badenoch on duty.
Mr. R. W. Ballantine on duty.

OBITUARY

JACK DOO

It is with regret that we report the death of Mr. Jack Doo, a Surgery Staff Porter, on Sunday, August 31st, after a long and exhausting illness.

"Jack," as he was best known, had been in the service of Bart's for 38 years, 25 of which were spent in Surgery.

He was associated for many years with the Orthopaedic and Children's departments, and will be remembered best for his charming personality and jovial manner, both to staff and patients alike.



ANNOUNCEMENTS

Engagements

COOK—WATFORD.—The engagement is announced between Richard C. M. Cook and Ann V. Watford.

LANGDON—FOGGON.—The engagement is announced between Dr. Thomas Cecil Langdon and Susanna Joyce Foggon.

Marriages

CAMPBELL—THOMAS.—On August 30th, Dr. Euan Campbell to Dr. Susan Thomas.

FARROW—SENIOR.—On September 6th, at St. Bartholomew's-the-Less, Dr. Lewis Jesse Farrow to Ann Senior.

HODGSON—GRAY.—On August 2nd, at St. Bartholomew's-the-Less, Gordon Hewett Hodgson to Pauline Audrey Gray.

PARRISH—CORLETT.—On August 23rd, Dr. John Anthony Parrish to Elizabeth Jane Corlett.

TUCKWELL—NEWTON.—On August 30th, Barry Tuckwell to Dr. Sally Newton.

Births

KINSMAN.—On September 3rd, to Margaret (Meg), wife of Dr. F. M. Kinsman, a son.

NEWILL.—On September 4th, to Patricia, wife of Dr. Robert Newill, a daughter (Angela), a sister for Heather.

Deaths

BURN.—On August 28th, Dr. John Southern Burn. Qualified 1910.

MILLS.—On August 16th, Dr. C. W. Mills, aged 56. Qualified 1936

WATERHOUSE.—On September 1st, Dr. Rupert Waterhouse, aged 85. Qualified 1897.

NOTICES

Changes of Address

DR. and MRS. BAMFORD, 24 St. Mary's Street, Ely, Cambs. Tel.: Ely 2256. Surgery as before: 40 St. Mary's Street. Tel.: Ely 2233.

DR. A. O. CAIRNS, 8 Canons Close, Edgware, Middx. (for the next six months).

MEDICAL STAFF

The following appointments to the medical staff take effect from the dates mentioned:—

Dr. Cullinan's Firm

Registrar (Chief Assistant)

Dr. J. A. Parrish, 1.9.58 (replacing Dr. Campbell).

Anaesthetic Department

Senior House Officers

E. F. Brooks, 1.7.58; E. Clissold, 27.8.58 (replacing Mr. Stainton-Ellis).

Mr. Hunt's Firm (1.10.58)

Registrar (Chief Assistant)

Mr. P. Knipe, 1.10.58 (replacing Mr. McGrigor).

Pathology Department

Senior House Officers

Mr. A. J. Selsbury, 1.9.58; Mr. B. A. L. Hurn, 1.9.58.

Mr. Corbett's Firm

Junior Registrar

Mr. J. E. A. Wickham, 1.9.58.

Dr. Hayward's Firm (1.10.58)

Registrar (Chief Assistant)

Dr. G. H. Aphthorp, 1.10.58—or possibly before; (replacing Dr. Picton Thomas.)

From Monday, September 1st, 1958, Mr. D. A. Macfarlane will carry out the duties of Casualty Surgeon every morning.

In the afternoons, the duties of the Casualty Surgeon will be carried out by the Junior Registrar attached to the Duty Firm.

EXAMINATION SUCCESSES

UNIVERSITY OF LONDON

Special Second Examination for Medical Degrees, July, 1958

Bhagat, B. B.	Brown, J. K.	Brunner, P.
Buzady, T.	Collier, L. J.	Crawhall, J. C.
Gallop, A. M.	Hood, C. A.	Irvine, R. J. M.
Jones, J. R. L.	Jones, N. O.	Jones, V. M.
Kark, A. M. R.	Kielty, P. A. M.	Langford, E. M.
Lewis, J. M.	McNeill, C. A.	Metten, A. D.
Miller, A. J.	Moynagh, P. D.	Prosser, D. I.
Sinclair, A. M.	Watson, J. U.	Welch, D. M.

Special First Examination for Medical Degrees, June, 1958

Gleadle, R. I.	Lageard, V. M. E.	McGrath, K. W. G.
Savege, P. B.		

The following General Certificate of Education Candidates have qualified for exemption from the First Medical :—

Austin, A. J.	Bousfield, J. D.	Dudley, N. E.
Glover, D. N. C.	Hadley, D. A.	Hardy, J. D.
Jennings, M. C.	Lotfi, D.	Owen, D. G.
Phaure, T. A. J.	Powles, R. L.	Powles, T. J.
Rolfe, M.	Stuart, J. G.	Tam, Y. D.
Wan Ping, I. H.	Whyatt, N. D.	

M.Sc. Examination, July, 1958

Bradshaw, A. L. (Physics)	Simmons, J. A. (Physics)
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Ph.D. Examination, July, 1958

Faculty of Science
Lofts, B.

SOCIETY OF APOTHECARIES

Final Examination, July, 1958

Pathology

Haslam, M. T.	Tooth, J. S. H.
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Medicine

Haslam, M. T.

Surgery

Haslam, M. T.	Tooth, J. S. H.
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Midwifery

Haslam, M. T.	Tooth, J. S. H.
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Haslam, M. T., completed the examinations for the Diploma of L.M.S.S.A.

Final Examination, August, 1958

Pathology

Casson, A. J.
Casson, A. J., completed the examination for the Diploma L.M.S.S.A.

PERSONALITIES

by GEOFFREY BOURNE

Among my first recollections as a small boy, aged about 4, was that of sitting next to the driver on the outside of a horse-bus. He was shrouded in a shining mackintosh cape. As I watched the skill and agility with which the sparrows flew up from the little heaps of horse manure that were scattered about the roads I was entranced by their ability to avoid the hooves of the advancing horses. Therefore my earliest desire was to own a sparrow. Of course I never did, but I was once taken to see Sir Thomas Barlow, the famous Victorian physician, and I remember walking with my mother down the long passage to his Harley Street consulting room. During the consultation I noticed, outside the window, some trees on which sparrows were hopping about, and I remember asking Sir Thomas whether he thought he could catch me one. Fifty years later there was a night telephone call to my home. Could I go to see Sir Thomas Barlow who was very ill. I drove down to the same house, walked into the same hall and remembered the same passage. This time I was the administrator and he, poor old fellow, was at the receiving end. He was well on in his nineties and dying of pneumonia. It was an interesting and tragic reversal of rôles, and a measure of the passage of time.

After my childhood visit to Harley Street I had no particular association with the medical profession until I happened, by good luck, to obtain a scholarship in classics at St. Bartholomew's Hospital. I had been brought up as a classical scholar, with a small 's,' and that accident determined my coming to this hospital.

The first personality I remember was the Dean, Tommy Shore, as we used to call him. He had a Victorian appearance of the more frightening and magnificent type. His beard was grizzled, and his hair curly and grey. From his rubicund face looked out a pair of striking pale blue eyes. Tommy

Shore knew how to control the medical students of those days. He held every potential disturber of the peace in the palm of his hand. His assistant in the Biological Department—for he lectured in biology—was a certain Dr. Cunningham whom I also knew and respected. Poor Cunningham, equally a vassal, always used to start laughing five or six seconds before the annually recurrent jokes in Tommy Shore's lectures. Tommy was no man to be trifled with.

I think that today the pressure of existence imposes a certain external discipline upon medical students, but then we were a more rowdy and financially undisciplined crew. One poor fellow named Bailey arrived at Tommy Shore's demonstration without his microscope, and Tommy knew perfectly well that the instrument had been pawned, but I remember him looking up and booming out "Do you mean to tell me, Bailey, that you have the damned impertinence to come to my Biology Class without your microscope? Go home and fetch it, sir." Bailey got up and went out with his tail between his legs. He did not return with his microscope.

It used to be a common sight first thing in the morning to enter the Abernethian Room and to see there three or four slumbering figures shrouded under *The Times* or the *Morning Post*. They would revive from their coma just in time to creep over to the "White Hart" for a refresher. They well merited the title of Perpetual Student which has since been bestowed on more eminent members, not only of our own staff but of the Public also. The title in their case was no misnomer, for they were students for years. The nights following the successful winning of the Hospital Cup on the rugby field were memorable. The Fountain was not long without a tenant or two, and songs and other sounds of triumph rang round the Square. I always thought of R.L.S.'s remark that he wondered where the horrible dirty

drunken medical students went to and where the dear old respectable family practitioners came from.

Another memorable character was Dr. Hurlley, our lecturer in chemistry. He was a tall, lanky Yorkshireman with a kindly personality, and a clear lecturing mind. If there should be some slight disturbance in his lectures, he would look at us with such benign reproach that always the turbulence would subside. He was a fine chemist and he did valuable original work on the Ketone bodies. Unfortunately during the early days of the first world war his place was taken, during a period of illness, by an assistant, 'K.' He, poor chap, did not look impressive, had something of a squint, and in the most serious company would have evoked a smile. You can imagine the scene in the lecture room when he tried to lecture instead of Hurlley. Many of the audience on the back row had armed themselves with beer bottles and some on the roof outside with paper missiles of all kinds. At a given signal there began a bombardment from the open skylight of paper and other objects. Beer was taken in therapeutic quantities on the back rows, and the bottles rolled and bumped down the steps. The poor chap struggled with his first lecture, and got halfway through the second, but never tried again.

It was about then that I developed diphtheria and simultaneously a systolic murmur was discovered, and attacks of paroxysmal tachycardia began. From my still being here it is apparent that neither of those two conditions is necessarily fatal. In actual fact they probably saved my life for many of my contemporaries who had not by 1914 achieved the wards, joined the combatant services in that war and were killed. This disability also had limited my athletic activities, which I will not dwell upon for reasons of modesty, and forced me to turn my attention more seriously to the academic side of hospital activities, and in due course I entered the wards. Without any doubt the most fascinating and interesting personality I met there was Dr. J. H. Drysdale, or as he was known, Dropsy. He was once asked why he was so called. He explained that he was changing once after a game of rugby at Cambridge and a friend of his began taunting him with his

adiposity. Some other wit stated that it was not fat, but dropsy. The name stuck.

As to appearance, he was of medium height, his hair was very smoothly brushed back, he wore a stiff collar with a little bow tie, an ordinary morning coat with tails, striped trousers—in fact, the full uniform of a consultant of those days. His face was mobile, his skin shone and he used to roll his eyes when surprised. Our hospital laureate, R. B. Price, in one of his humorous verses in "Round the Fountain" refers to Dropsy's 'india-rubber grimace,' and indeed he had an india-rubber face. He used to take a Bath bun and a cup of coffee for lunch. He was an inveterate smoker of "State Express" cigarettes.

Drysdale was a superb teacher. He insisted upon accuracy in everything. "If you learn to express yourself in an accurate manner you will learn to think accurately," he said. He would never allow such a loose phrase to be used as "There is nothing inside the chest." If told this he would reel with amazement and would totter back on his heels as if stunned. He did this once too often, just outside the bathroom door of the ward. He disappeared as the door swung to. It did not make any difference to old Dropsy, he just walked out again. There was another thing he could not abide, the statement in a note "Nothing relevant." "What you mean," he would counter, "is that you have been unable to discover any pertinent fact." This technique may sound finicky but, in fact, it made one extremely precise, and accurate.

In taking a history he would always insist on the routine, as you all know it so well—"What did the patient first complain of," or turning to the patient he would ask "When were you last quite well?" The patient would say, "Well, of course this pain has been very bad for the last four months." The Old Man would say "Yes, but when were you last perfectly well?" He would insist on obtaining an exact list of the symptoms, in their chronological order, getting a full description of each in turn. Sometimes he came up against this complication—the patient would say, "Well, Doctor, I never have been well" and his retort to that was "When were you last in your usual state of health?" and he might

qualify this by saying, "Of course, there are some people who enjoy ill-health."

He was wealthy. He was born in the Argentine. He once met a citizen from the United States in the Square, who approached him saying "I am an American." "So am I," said Dropsy. "Ah, what was your State?" "The Argentine Republic," said Dropsy. He did not see why the Argentine should be regarded as non-American.

Because of his wealth you would have thought that he might have lived a rather ostentatious life, but not a bit of it. His habits were frugal. He did not even own a motor car. His whole life was the Hospital. I do not know what he did in the morning after breakfast. I think he probably read *The Lancet* and other journals. He would appear at Barts at lunch, and he enjoyed his Hospital work and teaching to the full. He would consent to see a private patient if a really great effort were made to obtain his opinion, but avoided this as far as possible. When he retired one of the drawers in his house was found to be full of cheques that the Hospital had paid him, which were then of the nature of honoraria. He had never cashed them because he did not want to obtain financial reward for his services. Being a wealthy man he was immune from the results of free criticism. He did not care what his colleagues thought about him. Needless to say he was not popular with some of them. For instance, one of the gynaecologists had operated upon a patient who appeared later in the post-mortem room. Old Dropsy was there, as he always was, looking about most carefully. When the unfortunate gynaecologist appeared he said, "Tell me, is it customary when doing a hysterectomy to tie *both* ureters?"

On another occasion when I was his house physician he was asked to see a patient for Macadam Eccles. Macadam Eccles was a fine teacher and a good surgeon, but he enjoyed a monumental self-satisfaction. He was also an active and vociferous teetotaler. A request came up to the ward, would Dr. Drysdale go to see this most interesting case. The old man rolled his eyes and looked round, and we all moved off to Eccles' ward in procession. There was Macadam Eccles sitting beside the bed. "Ah, Drysdale, I am glad you came down,

and I hope that you have brought your physiological experts with you. This is a most unusual case. You see when I draw my finger nail sharply across the surface of the abdomen, instead of the usual red mark there is a white one. We want to know what will happen when we operate upon this man. Shall we get no bleeding?" "Well," said old Dropsy, "I do not think anything much will happen. Your trouble will be from secondary haemorrhage" and walked out of the ward.

A further Eccles story comes to mind. This time the protagonist was Sir Anthony Bowlby. Bowlby had a rather forlorn look, a slightly droopy moustache, a pair of steel rimmed spectacles, and a first class clinical mind. He was one of those people who had a superb memory, and in the pre-laboratory era a memory for the clinical details of individual cases was of inestimable value. Eccles sent for him. "Ah, Sir Anthony, I am so glad you have come to see this patient. We would greatly value your opinion." Bowlby did not say much. He walked up to the bed, looked carefully at the chart, made a quick but from his point of view a thorough examination of the patient, and walked to the other end of the ward. "Well, Eccles, there is only one thing for this man, beer." "Oh, but Sir Anthony, we would not dream of using alcohol in this ward. We do not believe it does any good at all." "B-I-E-R, Eccles," replied Bowlby, "B-I-E-R."

Morley Fletcher, one of Drysdale's colleagues, was a debonair, well-dressed, and handsome man. He had won the inter-University quarter-mile, it was unkindly said, in the slowest time recorded, but nevertheless he beat his Oxford rival. One of Dropsy's quips was still ranking when, one day, Morley found the "Old Man" standing in the Square with his House Physician, who at that time was a rather short gentleman with a little black beard and dark eyes. Morley Fletcher said "Do you know Drysdale what you remind me of?" "No," replied Dropsy, "tell me." "Well, you remind me of an Italian organ grinder and his monkey." Dropsy rolled his eyes and paused. "Well," he replied, "this is the first occasion upon which I have ever been mistaken for an Italian organ grinder."

A propos of Morley Fletcher, he was walking down Bond Street one day and his stethoscope happened to be dangling from the tails of his smart morning coat. A man ran after him and tapped him on the shoulder. "Excuse me, Sir, but I think your 'catheeter' is hanging out."

There was another character with whom Drysdale used to bandy words. Sir Robert Armstrong Jones was the Superintendent of Claybury Asylum. He was an alienist, psychiatrists not having then been invented. He was a pioneer in the parole system for harmless lunatics, and his measures were valuable in helping their return to normal outside existence. Dropsy one day had a morose and mentally rather queer patient. "I suppose we shall have to ask Sir Robert to see this woman." In due course Sir Robert appeared. He had an ingenious and lively mind and Drysdale was determined to pin him down to a definite statement. "Sir Robert," he said, "this woman is a problem," and with Churchillian deliberation and emphasis, "What we want to know is this, is she or is she not out of her mind?" Sir Robert replied quickly "And what is mind, yes?" He turned to the assembled residents and clerks and said "You have to be so careful with Dr. Drysdale, he is so able and yet so cynical." He interrogated the patient at some length and then he turned round. "She is, you know, entering a stage of life in which women are passing through the shoals. Some of them wet their feet." After a few more comments, and having received Dropsy's thanks for coming, he moved off towards the door of the ward. Drysdale called after him "Mind you don't wet your feet."

Sir Girling Ball, to whom the medical school owes such a debt in the acquisition of the Charterhouse site, was another of Dropsy's sparring partners. In the First World War the visiting staff of the Hospital also attended No. 1 London Military Hospital and for purposes of discipline there they were given military rank and wore uniform. Ball was a captain and Drysdale was a major. One day the Old Man rose in rank to become Lt. Colonel and that very day he received a written request from Ball, "Will Major Drysdale please see this case?" Dropsy rolled his eyes and off he went to the surgical ward. He inscribed his opinion

and, instead of departing home, to my surprise returned to his own ward. He industriously searched around and eventually found a patient concerning whom he thought he might legitimately ask for a surgical opinion. He wrote down on the request form "Will Lt. Ball kindly see." During the Second World War Ball, who was a bluff hearty character, full of energy and vitality, was in charge of the North Eastern sector of the Emergency Medical Service of London. One evening I returned home and was given the appropriate message by my maid—a disciple of Mrs. Malaprop—"If you please, Sir, Sir Goring Bull telephoned."

I once, as a student, went round with Ball's firm. He came up to the bed of a patient—an old man with blue eyes, sparse hair and an uncertain vacant smile, "Well, Daddy," said Ball, "do you want to get up?" No response, except for the raising of a hand to an ear. Louder Ball asked, "Do you want to get up?" Still no response. Eventually, at the top of his voice Ball shouted "DO YOU WANT TO GET UP?" The old chap delightedly nodded and grinned. "Well, YOU CANT!" bellowed Ball in reply.

Rawling was the first of our cranial surgeons, and the author of a still famous book on surface markings. He had a racy-looking brown motor car and always looked smart and debonair. He was superb in uniform. There was a patient in Drysdale's ward who had some sort of tumour, it may have been an adenoma of the breast. She had heard of Rawling's name and wanted him to do the surgical operation. "Jumpy" Rawling was sent for and arrived spick and span in his dashing Savile Row uniform. Drysdale proceeded to introduce him to the patient. "This gentleman, who looks like a soldier, is in reality a very famous surgeon. He will cut out your lump for you with his sword."

You can see what a marvellous time we had as his residents. He was unpredictable, incisive, and as salty in his personal sallies as in his teaching. To leave the lighter aspect of his character, he had a superb facility for obtaining the wheat and separating it from the chaff. He knew straight away the sort of value the electrocardiograph would be likely to have in the future, and

he actually himself bought and presented to Barts an early prototype, which for all I know may still repose in the Physiology department. There were only three or four in London, one at University College in Lewis's department, one at the London Hospital and another at the Heart Hospital. He realised equally well both the fundamental value and the exaggerated claims made for the newly introduced renal function and liver function tests. Those facts that he sifted out as useful forty years ago have not been disproved, the chaff he rejected then has similarly blown away in the wind of time.

There was one patient I remember well, *à propos* of the electrocardiograph, and that was an old Jew named Jacob Begner. He was a patriarchal old fellow. He was admitted with auricular flutter, probably the first case to be treated in this hospital by the still modern methods of full rapid digitalisation. On his discharge I used to go down to Bow with my little polygraph and so follow his progress. I remember his once rising up like a prophet and saying "One day you will be a three-guinea heart specialist." He was not right about the three guineas. He was a dear old man. I once went to see him at Bow during the Passover Week and he asked me to sit down and accept the honour of being the official "stranger within the gates."

Drysdale never made fun of juniors, however cutting he might be to his equals and although he was a wealthy man he was a very generous one. When I asked permission to apply for the post of Chief Assistant or Registrar, he acquiesced. But a few days later he approached me saying that he would like to take on for six months I. L. Braun who intended to practice in Johannesburg. Would I mind deferring my appointment? "Continue to work in the pathology department," he added, "Go round the wards and assist unofficially in the work of the firm." This I did. Eighteen months later he approached me in the Square one day and handed me an envelope. "This," he enunciated, "has nothing to do with the Inspector of Taxes." It contained a cheque for £100, the sum which I would have received officially if my appointment had not been deferred.

When he retired I went round to see him

at his house in Devonshire Place. He said, "I do not know if there is anything here that you would like." There was a box of large Havana cigars which I accepted and a number of useful books. Then he offered me, with a grin, a small porcelain chamber-pot for collecting specimens, unique in the possession of a small spout. I still possess this unusual memento.

I have a few memories of housemen. A very old friend of mine, Frank Gordon Watson, second cousin of Sir Charles Gordon Watson, was the hero of a perfectly true story. Frank was clerking for Sir Thomas Horder. His patient, a young man, had some gastric symptoms. He read out his note of the history and the results of his physical examination. "Well, Watson," said Horder, "What do you think is the matter?" "I think, Sir, that he has a sarcoma of the stomach." Horder's reply was sarcastic in a devastating but a kindly way. Three or four weeks later the man died, and of a sarcoma of the stomach. Horder walked up to Frank in the Square, "Watson," he said, "what on earth made you make that diagnosis?" "Well, Sir," seriously replied Frank, "it was revealed to me in a dream."

Frank, then house surgeon, was the audience on another occasion. A poor old Mrs. Smith was under the delegated care of an Egyptian dresser. The student was the sort of whom I once heard another patient say, "'E's a proper doctor, 'e is, 'e don't mind, 'e 'urts yer." Mrs. Smith had varicose ulcers, and Frank Watson instructed the dresser to treat the ulcers with hypertonic saline. Mrs. Smith was never seen again, but Frank Watson remembered her. "What did you do to Mrs. Smith?" "Oah! I gave her the hypertonique!" "Well, what did you do?" "Oah you know, the hypertonique." "What-exactly-did-you-do?" "Oah I took a handful of salt. I clap it on her leg and bind it up queeck. She jump up and she run out with a great cry, and I have not seen her since."

Joyce from Cardiff was a first-class house surgeon to Sir Holbert Waring. Waring was as gruff as a bear and his temper was never good. One day in the theatre Waring standing on one side of the abdominal incision, said to Joyce, "Hold that," "Take that," "Hold that," "Why can't I get a

decent house surgeon?" "Excuse my mentioning it, Sir, I am not a bloody octopus." He had no further trouble with Waring.

Waring was also the central figure in a situation in which Mervyn Gordon was involved. Mervyn Gordon was an extremely charming man, and a fine research pathologist, an archaeologist, a good historian, and equipped with a delightful humour. He had a monkey named Rahere which had survived some of his experiments, and which lived on the fourth floor in Mervyn Gordon's laboratory in the Pathology Department. Gordon always took Rahere a banana from lunch. One day he entered the Pathological block, banana in hand, pressed the ground floor button. No lift. He walked up to the first floor, pressed the button. No lift. He walked up to the second floor, and there visible through the lift grid were the top halves of Waring, his house surgeon, and one or two other trapped and uncomfortable individuals. To Waring, nearly speechless with rage, Gordon, gently smiling, pushed the banana through the bars.

Waring could not abide the idea of women medical students. He was once examining in surgical pathology for the final conjoint. Opposite to him sat a poor girl. He pushed a specimen at her. "What's that?" No answer. "Hmph. Then what's that?" Again silence. "Hmph. What's that?" "Don't you know anything?" The girl broke down and through her tears protested, "I think you are a nasty, horrid old man and I don't want to see you again." Waring looked at her for a moment, "You won't have the chance for six months."

About the Sisters I have not got very much to say. It is perhaps Sister Powell who stands out in my mind. She was on the surface a hard, thin little person. The psychiatrists now would say that she was a frustrated individual. I do not think she was. She had an intense love of the profession, and was an excellent teacher of her nurses, and, if you were wise enough to learn, of her house physicians also. One case I remember in her ward, who was seen by several physicians in consultation. Diagnostic aids were not then as good as they are today and the diagnosis remained obscure. Within two or three days of the patient's admission Sister Powell had re-

marked "typhoid fever." The patient lingered for a week or two, developing among other things a pleural effusion. At the post mortem the typhoid ulcers were found.

She used to collect young starlings that fell from the trees in the Square, and had other unusual pets. It was alleged that she smoked a clay pipe in bed. She could not stand old Dropsy. There was something about his apparently unsympathetic exterior that blinded her to his generosity and his other fine qualities. It so happened that Dropsy and Langdon Brown—whom she adored—had, at one time, patients in the same ward. Drysdale was the senior. The Old Man started his round with the "Blue Belt." No sister appeared. He guessed that sister was waiting for Langdon Brown's round, due later in the afternoon in the back ward. He said to the "Blue Belt," "Would you please give Sister my compliments and tell her that I am in the ward." The Old Man continued his round, but not one word did he address to sister the whole afternoon. She never repeated her error. I, however, as house physician received the full brunt, as you may imagine. But although I suffered until she relented she retained her full co-operative efficiency, and even several times gave anaesthetics for me to patients who needed a lumbar puncture or chest exploration. Eventually, as I say, she thawed.

Students. One hesitates to say much about students. Jennings of Jesus was a Cambridge character, pre First World War. He was a black-avised individual with big rimmed glasses, semi-bald, and of poor physique, but Jennings of Jesus had been up to that time in two wars, both in the Balkans. He also had an arm injury which was obtained by the game he used to play with his brother—shooting at one another with .22 rifles in the woods.

Mellowes is still somewhere about. He was an extraordinary character. Horder was giving a lecture in the old anatomy theatre; through the door to the passage there resounded a popular song, rendered with power. Horder stood it as long as he could. But eventually he paused and went out. "Mellowes, I am trying to teach these chaps some medicine." "Good luck to you, Sir," said Mellowes.

A student from the Near East had a self-assured personality, curly black hair, full lips and a broad grin. He, I think, gave the shortest clinical note I have ever heard in surgical out-patients. Pointing to his astonished patient, he declaimed, "He laugh—He smile—He got syphilis—He no care a damn!"

I have noticed that students are very quick on the uptake, so did George Graham. George was examining a buxom good-looking young woman with mitral stenosis, high-coloured in the face, and with well-rounded contours. George Graham put his hand on her left breast, looked over to the class and with a dreamy look said, "I feel a distinct thrill."

I was ending a practical medicine talk one day on orthostatic albuminuria and had explained the importance of testing two specimens, the first passed before rising and the second later in the day. I then referred to the observation of Dukes, doctor to Rugby School, who had noticed that orthostatic albuminuria was common in boys who fainted in school chapel. These cases were few, I continued. Had it been otherwise it would have been a tragedy of the first water. The roar of applause aroused by this unconscious witticism caused me, fortunately, to seize the opportunity for using it as a closing peroration.

Patients. I think one of the things that has impressed me most is the courage of patients. There was a young fellow of 23, just before the days of insulin, who was a severe diabetic. He just avoided coma several times, and by courage and determination, and rigid adherence to his diet, survived until insulin suddenly appeared and saved him.

Then there was another patient with cirrhosis of the liver. I took 14 to 16 pints out of his abdomen in two taps. He asked, "What shall I do in order to avoid this returning?" He had worked in Covent Garden from the ages of 12 to 50 taking increasing nips of gin to keep the cold out. I pondered the chances, and replied that he should absolutely cut out alcohol. I never expected to see him again. A year later he turned up. I did not recognise him. He said "I have been visiting my favourite pubs and meeting my sporting friends, and

I have stuck to soft drinks. Would it be safe to take something stronger occasionally?" I said to him "You ought to be dead by all the laws." He smiled. "All right," he said, "I understand." Two years later I saw him again but this time he had relapsed and was going downhill. He had lost his wife in the meantime and did not want to live. I learned that one should never take the pessimistic view.

Senor Marconi came to see me years ago, complaining of anginal pains. He usually suffered most just before his speeches in the Italian Senate. My electrocardiograph broke down, presumably suffering from stage fright. He said, "Can I help you to put it right?"

I went to see a famous and eccentric Duke. His apparel was outré. He wore a purple dressing gown, pyjama trousers, and a boiled shirt devoid of collar.

Ernest Bevin made a great impression upon me. He had had at least two coronaries, and in spite of this travelled by plane and by train regardless of distressing pain and disability. His physical condition was, in comparison to his service to his country, a secondary consideration.

I once had to take an electrocardiogram of a spirit. This being periodically inhabited the body of a large fat American bovine-looking blonde lady hung with jade and bangles. She had been investigated at a University in Carolina, and the electrocardiogram, as well as the blood picture and the basal metabolic rate, was said to vary according to the spirit which at the moment possessed her. She was accompanied by two people interested in spiritual phenomena, who introduced her. She got up on the couch and I took a control electrocardiogram. She then rolled up her eyes, began over-breathing and went off into her trance. "Is by any chance Abdul there?" She thought so. Eventually Abdul spoke in a deep resonant voice. "Oh, yes, how do you do?" To one of the people in the room he remarked, "I think we have met before, wasn't it at Lady X's? You see I always was one for the ladies," and he went off into a hoarse laugh. It was explained to Abdul that I wanted to take his electrocardiogram. "I don't care what you do," he replied,

"it is the medium's body, not mine." Again a deep laugh. Then he added, "I have got diabetes, I don't know whether this makes any difference." Spiritual diabetes was a new one to me, but I reassured him. I took the electrocardiogram of Abdul, who departed. The medium eventually returned to terra firma, and I took a further electrocardiogram of her. Needless to say all the tracings were the same.

The trouble with such reminiscences is that in the deathless words of Ramsay MacDonald, one can go . . . on . . . and . . . on . . . and . . . on . . . until . . . the . . . end . . . is . . . reached. I think, gentlemen, that this quotation is apposite.

HILL-END—A COMING NOSTALGIA

by A. M. HALL-SMITH

The new building matures in Smithfield, its white-washed eyes opening, the gaunt frame now red bricked and angular. "When we move back to Bart's" rings daily round Hill End, and to most of us here it will be a sad day. Perhaps the time will come when they will be saying "When we were down at Hill End" with shining eyes and a wry smile—the stories will have made it into an idyll, a green sonorous placid tableau, with cows lowing and the residents scattered here and there beneath trees, asleep in deck chairs. Let them, then, read this *Journal*—for it was never so, yet it is as near an idyll as most housemen know.

Hill End is different. More peaceful, more embedded, more intimate; surrounded by the green lawns and trees whose presence is felt along even its longest and most clattering corridor. There are few duty admissions; the day's course is planned. Tranquil lists are jarred into excitement by

great operations—the Gods themselves peer in, and are silent as each theatre in turn twists the rules of nature in a surgical fantasy. In the Nurses Only the coffee jugs plopple and pop, boiling on their stoves. Firm by firm the green-frocked forms gather round the table, discussing the day's news, their own daring, sister's geraniums; before moving off to the wards, full of fat sandwiches (blessed be the theatre thirds). A drowse of anaesthetists collects and disbands, and from down the corridor, sheathed in X-rays, a familiar voice intones.

Lunch-time in the M.O.Q., Mary badgered and bustling. Surgeons white-coated next to students, Hill End proper and Hill End Bart's, sustaining themselves in rows, trafficking over the white tablecloth. Next door, the perennial click of billiard balls; shouts of anguish leavened with steady snores from the sitting room. Sundays in summer—spring and volley from the tennis court, the lazy gossip of sunning nurses, visitors flocking, queuing and querulous. Housemen under their motor cars, save one, beneath the *Observer*, asleep.

In the grounds, the different peoples—the lawns of the Infirmary wards scattered with persons, sitting or shuffling, shapeless and appealing. The lonely nurse strolls by dreamily, opened letter in hand; others hurry past, dressed to kill and laden with suitcase, labouring to the bus stop on days off. In the wards tragedy stalks among the inert forms, balancing a riot of recovery. Modifying its terrors, but none of its solemnity, flowers wait still on the patients' lockers, and are moving in the garden outside. Squirrels dart about on the verandas, graceful and hasty for chocolate. Cats, dogs, tortoises, birds, all are seen in the wards; the stranger looks twice, the children are delighted.

And what of this shall we miss, when we are again city fast, looking back at the idyll? Two things at least—friendliness and fields. Starch and pomp are not much worn here; the pro is a person, the Mess has a oneness unknown in town. And which of us will not miss most the maze of paths and fields, still and balmy in the evening, daily green and peopled, even grey and sodden, but always there, outside the window. Bart's had been fortunate to know Hill End.

A PORTUGUESE JOURNEY

by A. T. SEATON

The thought of visiting a new country which promised to be colourful, hot and near enough for a fortnight's round trip, occurred to us in the depths of last winter, and consequently we found ourselves at Lydd airport at the start of out-patient's holiday.

Our transport was a Morris 1000, painted in a vivid enough blue to rival the brightest colour in the South, and extract at least one very audible "Oh, quelle couleur" in a remote French village. It carried three people, their light luggage, camping equipment and a formidable medicine chest carried at the insistence of medical parents. As competition was rumoured to be hot, we regretfully decided not to masquerade as itinerant stone cutters.

As 4,000 miles in all were to be covered, and as much time as possible was desirable at the destination, some long non-stop runs through France and Spain were envisaged. The airport at Le Touquet was left at 6.30 p.m., and French cooking was gratefully sampled once more in Rouen at 9 p.m. As far as possible we attempted to stop during twilight hour when driving is most difficult. Midday following found us at Hendaye, on the Spanish border, when strange noises in the engine heralded the first hitch in the plans. Diagnosis of burnt-out valves was correctly made, and it was a major piece of luck that a Morris agency was only 20 miles back in Biarritz. Here, Gallic shrugs and voluble protestations gave way to engineering efficiency when we were able to produce new valves from our spares kit—an essential item. However, 24 hours were needed, and thankfully realising that the misfortune couldn't have happened at a better place—a magnificent beach instead of an arid Spanish road, we settled down to an afternoon's surfing and sunbathing, a huge meal (with no need to limit the driver's alcohol) and a good night's sleep à pension.

On the resumed journey, we were able to make good time through San Sebastian and across the 2,500 feet high pass to Vitoria, which (under the present conditions of blazing heat) is often surprisingly blocked by snow during the winter. A quick look at Burgos Cathedral, and then westwards, leaving the Madrid road, towards Portugal. We decided to cook our own evening meal and sleep a few hours on the camp beds before making a really early start on the last lap of the journey. We heard the occasional whir of mosquitoes, but despite our mutual reassurances that they only bite at dusk, their hunger got the better of our willpower. We lost interest in swotting them, and finally, in any idea of sleeping, but not before our bacteriologist assured us that their sucking angle was not that of malaria carrying species! Camp was hurriedly struck at 2.30 a.m. We observed then that the combination of pine trees and slowly flowing irrigation streams in the nearby field was very favourable for mosquitoes, and that aerosol sprays are useless in the open air.

Some compensation was gained two hours later, when we got an unforgettable sight of Salamanca by moonlight. Because of the semi-darkness and the complete absence of people, everything seemed larger, and left a tremendous impression. The floodlit Cathedral was particularly beautiful. The Spanish-Portuguese border was reached an hour before it opened, but the time was pleasantly spent with two Portuguese students returning from London and an American biochemist and his wife. The latter couple fooled us completely by stepping out of a French car, and only after we had congratulated them on their fluent English, with its quaint accent, did they say they were American.

There was an amazing difference in atmosphere and scenery as soon as we crossed the border. The baking, extensive plain gave

way to mountains, and the long flat road to an exciting series of hairpin bends, with visibility rarely more than 50 yards. It was very strictly no sight-seeing for the driver on this stretch.

After three hours of this, the road flattened and we reached Coimbra, the old university town, and the Portuguese equivalent of Oxford and Cambridge rolled into one. The University buildings are at the highest point of the city, and we were especially impressed by the huge library with its sumptuous carvings, and the magnificent new medical school—a vast modern building faced in white marble, with excellent lecture rooms and laboratories, obviously built regardless of cost. Frescos and statuary representing the history of medicine and surgery confronted one on all sides, and it would be interesting to know if the teaching equals the environment; unfortunately, the medical school was closed for vacation, so we couldn't sample a lecture.

Lisbon was reached in time to check into an hotel and luxuriate in a cold bath before eating. Thus refreshed, we were able to look at the night life with renewed interest. The broad, shady Avenida de Liberada, with its outdoor cafes and black and white mosaic pavement, would do justice to any European capital. Off this, however, were the narrow side streets with numerous fish shops and restaurants, which remind one that Portugal is still mainly a seafaring nation. We watched fascinated, as in one restaurant window, lobsters by the dozen were expertly blinded, bound over double so that they couldn't flip, and finally piled vertically on top of each other to a height of many feet, still wriggling to guarantee their freshness! Our own meal showed us that while the fish courses are almost unlimited in number, and usually excellent, the meat and vegetables are relatively uninteresting.

While the car was thankfully being oiled and greased next day, we returned to the centre. Under the economic guidance of Salazar (an ex-professor of Coimbra), the Portuguese Escudos has become one of the hardest currencies in the world, comparable to the dollar and Swiss franc. In the commercial quarter, the exchange houses have piles of gold coins in all currencies, which anyone can buy—providing he has ready cash.

It was quite strange to see huge piles of gold sovereigns openly for sale in a window. Here we also came across the Bank of the Holy Spirit and Commercial! Another day was spent looking at the environs of Lisbon, Belem and Estoril, and the night was spent camping on the coast near the artists' colony of Sintra. While bathing before dinner, we suddenly discovered that we were now south of the gulf stream, and that the water was really cold. There and then, we decided to speed down to the south!

At this stage, one of the party developed a high temperature and pain in the maxillary sinus, due, we thought, to some water which he had felt enter while bathing. He, a Thomas's man, for some reason distrusted the high qualifications with which nearly a year's clinical experience at Bart's had endowed me, and steadfastly refused the detailed and thorough examination which we thought his condition merited. Preferring the empirical use of oral penicillin, he was quickly cured, but not, we hastened to tell him, without a detrimental effect on his natural immunity.

Travelling south involved the ferry across the estuary of the Tagus, and enabled us to get the famous view of Lisbon from the sea.

With some trepidation we headed south on what was marked on our map as a secondary road. Having some experience of Spanish secondary roads (and even main roads), we expected the worst, but found an excellent macadamised surface the whole way. Our only excitement on this trip was a sudden blow out from a front tyre. The report was enough to wake the whole village (which was in the middle of its Siesta). I'm sure they expected us to be there several days at least from the fuss which went on, but we impressed them all (and ourselves!) by being back on the road in eight minutes.

On the South coast, we stayed at a tiny resort called Praia de Rocha, and as we were there some days, were able to absorb more of the atmosphere and get to know more people. The obvious friendliness of everyone was immediately apparent. The waiter at lunch got into conversation in a mixture of English, French and Portuguese, and hearing that we had nowhere to stay, insisted on finding us a little pension, where we had rooms for 3s. a night. He also insisted on inviting us to

lunch at his house with the following invitation: "Three my friend . . . fish . . . wife . . . sup . . . my house." As can be imagined, conversation was somewhat limited in expression, but the excellent fish and vast quantities of wine quickly removed any inhibitions we had about carrying out a conversation in sign language. His wife, a charming girl who couldn't have been more than sixteen, didn't join us at table, but kept beaming and popping through a curtain with new dishes of cooked fish. We met him for a drink the next day and, to our surprise, received an extra glass of everything. In explanation, he indicated a lady sitting by herself in the corner, and repeated several times, "Miss after." We gathered that "Miss" was after a husband, and that this was one of the ways of attracting people! On the beach, we were often surrounded by children wanting to learn English words and play games the equivalent of noughts and crosses.

We all wanted to see Cape St. Vincent, having had the poem commemorating Nelson's victory drummed into us as children, and we were not disappointed with this place which was, for so long, the edge of the known world. On the west side, the Atlantic beats against the 200 ft. cliffs, sending spray high in the air, and on the south side all is calm and hot and beautiful bathing. Here we spent many happy hours painting, reading and walking, as well as being shown all over the lighthouse.

Our little pension was an amusing place, with straw mattresses, water which was turned off at midday, and a loud chiming clock in the bedroom which beat the quarters as well as the hours. Incidentally, this didn't equal the experience in Dublin, when the

clock struck the whole of "Ave Maria" each hour, and one verse each quarter! The pension was owned by a dyspnoeic lady whose husband ran a vin-hos—or back street bar—that might have been transferred direct from London in Dickens' time. A huge gloomy cave, with vast barrels of wine in the back-ground, and inhabited by the filthiest imaginable characters from the docks in various stages of inebriation, all spitting more or less (usually less) expertly into the sparsely distributed spittoons. Here, however, we were introduced to a local sparkling white wine called Vino Verdas, which was excellent, and our sole accompaniment to meals thereafter, as it went so well with fish.

Unfortunately, time passed quickly, and we soon had to set out north. The car was washed, and, in a fit of enthusiasm, the garage washed the engine as well. However, the hot sun quickly dried it out. We decided to return via a different route, as from the south, Madrid was no further than back via Lisbon. Another very pleasant all night run was undertaken—we never got over the luxury of a long drive with headlights full on the whole time. The co-driver and navigator were invariably asleep the whole time, and it was a very pleasant feeling, by oneself, travelling fast across the dark country. Madrid was reached at dawn, and the face of the night-watchman at the Prado Museum had to be seen to be believed as the mad English arrived for their sightseeing at 5.45 a.m.

That night we camped in the forest south of Bordeaux, having covered 970 miles virtually non-stop. The next two nights were spent with friends in Paris (where we saw clouds for the first time in eleven days), and then back to England.



P.C. 3-7-11

This very introspective and absent-minded young policeman has piles. He complains that they "come down" while on point duty, and he is unable to push them back "like other people," as his arms are otherwise engaged! He certainly has some degree of piles, and I would be grateful if you would see him.

MEDICAL PROBLEMS OF HIGH PERFORMANCE FLIGHT

by EUAN D. R. CAMPBELL

The title, high performance flight, has been chosen in order to include discussion of problems arising from high speeds and high altitudes. High speed in itself causes no special physiological problem, so long as it is constantly maintained in both amount and direction: however, change in speed or change in direction both constitute an acceleration, and it is the body's low tolerance to acceleration which imposes far greater limitation on performance than the danger of structural failure of the aircraft.

Measurement of acceleration is by rather loose use of the mathematical symbol g : if an acceleration of 3 g is applied to a mass (say a lead weight being swung in a circle) then the force acting on that mass would be three times the weight of the mass at rest.

Thus, if a person is being accelerated in a vertical direction at 3 g , the column of blood between his heart and brain will "weigh" three times as much, and the stresses and strains on muscles, ligaments and bones will similarly be increased three times. The sensations aroused are those of rapid ascent in a lift, together with a feeling of heaviness of the limbs.

The effects of " g " depend both upon its intensity and duration. After three to five seconds at 4 g , the effects of mild cerebral anaemia become apparent: the retina is most rapidly sensitive to deficient oxygenation, and at first there is a loss of visual acuity, followed by a failure of colour vision (grey-out), followed in turn by failure of all vision (black-out). If 4 g is maintained for longer than ten to fifteen seconds, unconsciousness follows the black-out. All these phenomena are reversed as soon as the acceleration ceases, and are caused by pooling of the blood into

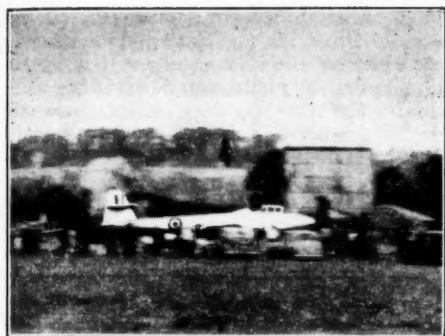
the abdominal and limb veins, inadequate filling of the right auricle and eventual deficiency of cerebral blood flow. These effects occur during such manoeuvres as steep turns, or pulling out from a dive.

The reverse effect is seen during the top part of a loop where blood tends to pool in the head, causing redness of vision (red-out), conjunctival and possibly cerebral haemorrhages.

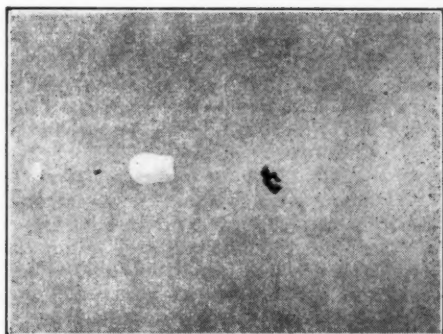
For shorter periods of time man can withstand much higher amounts of g , the limiting factors here being the ability of bone (particularly the vertebral column) to resist the crushing strain upon it. Thus, when an ejector seat is fired, the pilot has to be shot up to eighty-three feet in one second. For one-tenth of a second, forces up to 21 g are encountered, above this level crush fractures of the vertebrae occur (see Fig. 1).

General fitness has some bearing on " g " tolerance, and such factors are over-indulgence in tobacco or alcohol, tiredness or poor abdominal musculature can all reduce tolerance by about 1 g . However, modern combat aircraft have performance potentials well above 7 g and, obviously, other measures are needed.

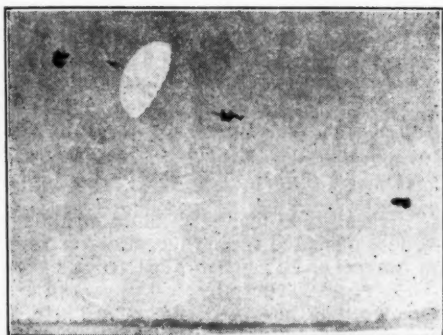
So far, discussion has been limited to " g " forces applied along the head to the axis of the body: much greater forces can be tolerated if they are applied through different body axes, and this can be arranged by having the pilot lying prone instead of sitting upright. The disadvantages of this as a flying position however, are overwhelming; the pilot would have restricted upward vision, would need extensive retraining in this new position, and would be more liable to injury in a clumsy



I



II



III



IV

Fig. 2

EJECTION AT LOW ALTITUDE

landing. However, this position will have to be reconsidered when man-controlled or man-occupied rockets become available.

A G-suit helps to improve tolerance by a further 2 or 3 g, and it consists of an inflatable pad strapped tightly across the abdomen. Air is automatically forced in when 3 g is reached, and this helps to prevent abdominal pooling.

One of the more amusing effects of acceleration can be to abolish the effects of gravity: this can be achieved by flying in an upward circle at a set speed. So far, it has

not been possible to extend this beyond ten or fifteen seconds, but human observers find a gravity-free environment frighteningly unfamiliar, with absent proprioception and clumsy, poorly co-ordinated movements. This again will be an important problem to overcome in space travel.

As previously stated, speed per se causes problems for the designer rather than the physiologist. Passing the sound barrier in a supersonic aircraft can only be detected by instrument readings: there are no physical disturbances or difficulties of control. At speeds above 1,000 m.p.h. the frictional air

resistance may cause a cabin temperature near 100°C and refrigeration is necessary (even though the outside temperature may be minus 50°C). The higher take-off and landing speeds need quick reactions from the pilot, but nothing more complicated than that.

Interception, even at present-day speeds of 1,300 m.p.h., poses a more difficult problem: the latent period of perception in the cortical association areas may vary from 0.3 to 0.4 seconds under different conditions. Radar information fed into an electronic computer can present advance information to the pilot, or even initiate necessary action for him. Development along these lines has already meant the obsolescence of the manned fighter.

Disorders of sensory perception

Normal perception of position in space is a summation of proprioceptive and sensory information from the four limbs and skin, vestibular impulses and vision. Normally these correlate, but if there is an apparent contradiction, visual sensation over-rides the remainder.

Orientation in the air is supplied in exactly the same way; under conditions of visual flight the pilot is only vaguely conscious of proprioception and vestibular information, but under instrument flight conditions, he has only these latter to rely upon (apart from his instruments) and they can be distinctly misleading.

A constant rotation in the plane of one of the semicircular canals will produce no sensation of turning, but when the rotation ceases, the semicircular canal will impart a sensation of rotation in an opposite direction, thus urging the pilot to re-enter his original manoeuvre. This may be particularly dangerous in a spin. Movement of the head during a turn may again cause completely false impressions of a change in attitude with consequent attempts at "correction."

It was previously stated that visual impressions were reliable, but conditions can occur in which this is not so. At high altitude the sky is darker than the "ground," and this is a disturbing sensation, particularly after aerobatics which give a series of dis-

ordered and unusual impressions. It is quite a habit of fighter pilots to take the "doc" for a ride, and leave him not knowing whether he is on his ear or his elbow! Similarly, at night with restricted visual fields due to oxygen lack, commonplace lighting patterns may be difficult to interpret and a totally wrong assessment of attitude is made. In all these difficulties complete reliance on the instrument readings are essential, and the instruments should over-rule all other impressions.

Altitude

Piston-engined aircraft fly with maximum economy between 18,000 and 24,000 feet. Above 24,000 feet there is a rapid decline in performance. Propellers themselves become less efficient after 25,000 feet, and are almost useless above 33,000 feet. The jet engine, however, can only begin to function efficiently above 25,000 feet, it reaches maximum economy in the 40,000 range, and begins to fall off above 55,000, due to the very small oxygen tension at these heights.

High altitude flight has other advantages besides increased speed (due to decreased air resistance) and economy of fuel consumption. Areas of turbulence are greatly reduced once cloud ceiling has been reached, so that air sickness is hardly a problem any more, visibility is clear so that congested airways are avoided, and well defined layers of air travelling at speeds of 100 m.p.h. or so (jet-streams) may be utilised—providing the direction is helpful.

Thus the development of high altitude flight would have evolved independently, without the influence of military or strategic considerations.

The psychological problems involved stem solely from the decrease in oxygen tension as altitude increases.

At sea level the partial pressure of oxygen in the atmosphere is 150 mm Hg, at 16,000 feet it has fallen by half to 75 mm, and at 30,000 feet to 40 mm. The partial pressure of oxygen in the alveoli must be maintained in the region of 100 mm to prevent anoxic symptoms. This level is reached at about 10,000 feet, so that above that height the air must be progressively enriched with oxygen,

There is, however, an upward limit to this, for at 32,000 feet the *total* atmospheric pressure is 187 mm Hg.; in the alveoli the combined partial pressures of CO₂ and water amount to 87 mm, so that breathing pure oxygen will only just maintain a sufficient partial pressure in the alveoli. As further altitude is gained so the partial pressure of alveolar oxygen drops, until at 64,000 feet, the atmospheric pressure equals the partial pressure of water vapour in the lungs, or, in more dramatic terms, the blood would boil at normal body temperature.

Pressure breathing (oxygen admitted under pressure to a tight-fitting face mask) helps a little above 32,000 feet, but expiration becomes an effort and the chest becomes progressively overfilled. This can be overcome by the wearing of a pressure waistcoat, filled at the same pressure as the incoming oxygen, however, it is uncomfortable, particularly around the neck and the venous and lymphatic return to the thorax is hindered. A full-scale pressure suit attached to a "bone-dome" or spaceman-type mask is more satisfactory, but causes oedema and deficient circulation in the hands and feet when worn for long periods. Furthermore, when a pilot is wearing flying clothes plus a G-suit and pressure jacket, he is considerably restricted in his actions, and cooling by insensible perspiration is retarded so that air has to be blown between his skin and the first layer of clothing.

In civilian aircraft these difficulties can be overcome by cabin pressurisation, whereby the cabin altitude is kept well below the true value. In large passenger-carrying aircraft considerable structural reinforcement is required to withstand the internal pressure: for instance, a Viscount at 20,000 feet usually maintains a cabin altitude of 6,000 feet with a pressure differential of about six pounds per square inch. This does not appear to be great until it is realised that one window has a surface area of roughly 300 square inches, so that a force of nearly one ton is being withstood by each window.

In combat aircraft it is impracticable to maintain a low cabin altitude, because puncture of the cabin would result in an explosive disintegration. Some pressurisation is necessary above 32,000 feet to avoid the need for a pressure-suit, and the cabin

altitude is usually maintained somewhere below 30,000 feet.

Methods of escape

Escape from an aeroplane, such as a Spitfire, was relatively easy: the pilot would jettison the canopy, roll the aircraft and fall clear. At speeds above 400 m.p.h., however, the slipstream acts as a barrier holding the pilot in; even if he managed to get clear of the cockpit he would be likely to be struck by the tail.

Ejector seats were designed to overcome this and now have reached a remarkable stage of development. The basic principle is that the seat contains a charge of cordite which, when detonated, fires the pilot in the chair out of the aircraft.

Under present day circumstances ejection may be necessary at high altitudes such as 50,000 feet. At this height, unpressurised and without oxygen, a person is capable of only a few seconds' consciousness, so that all actions after the moment of ejection have to be performed automatically for the pilot. He is first freed from his seat and allowed to fall free to about 10,000 feet: by this time he will have slowed down to the free-falling speed in normal air density of 120 m.p.h. The parachute is automatically opened, and the pilot should regain consciousness by the time he has dropped to 3,000 feet.

The automatic devices have reached such a stage of efficiency that it is now possible to eject from an aircraft just at take-off and land safely: previously, a parachute would not have time to open if a pilot baled out below 500 feet. (Fig. 2.)

The main dangers of ejection at high speed are the effects of meeting the blast of the slipstream, unless the arms and legs are securely held in the knees and elbows are blown outwards, with dislocation of the hip and shoulder joints. The face is protected by a blind which is drawn down in order to fire the seat: even so, eyelids may be lacerated or torn off, the cheeks blown out and mouth split. Two or three pilots have survived ejection when travelling at supersonic speeds, but at the expense of considerable injury.

Ultimately, a design will be produced

which allows the pilot to be ejected in a pressurised capsule which is jettisoned once safe levels have been reached.

Explosive decompression

This occurs when pressurisation is suddenly lost through such occurrences as loss of the canopy or partial destruction of the cockpit, or, of course, when ejecting at high altitude. The main brunt of this is borne by the air-containing sinuses and the middle ear. Pressure equalisation between the sinuses and the atmosphere occurs fairly quickly when the pressure inside the sinuses is greater than the surrounding atmosphere. Equalisation is not so rapid, however, in the middle ear, and the eardrum may be burst by excess pressure.

Development for the future

Heights of 60,000 feet are now almost banal, and future problems are more concerned with travel in an environment which is gravity free, at a temperature of absolute zero and without any ambient atmosphere. Of these three problems, absence of gravity is undoubtedly the most difficult to overcome: nevertheless, there is more time in which to resolve these difficulties than the daily papers would have us believe.



(Fig. 1)

VERTEBRAL CRUSH FRACTURE AS A RESULT OF EXCESSIVE G

ACKNOWLEDGEMENT to Martin - Baker Aircraft Co. Ltd., for permission to reproduce the above photographs

FIFTY YEARS AGO

The Editor congratulated all Freshmen on their excellent choice of Hospital. The list of educational and sporting activities was very similar to our present system.

"Publication on the 1st of each month" was the Publication Committee's new academic year resolution.

With an increased number of dressers, the hard-worked House Surgeons were relieved of the burden of doing all the dressings in Surgery.

Announcement of the recommencement of the German Class.

Articles :

"The Nature and Significance of Rigors in Disease," by Sir Dyce Duckworth.

"Notes on Persia of Today," by Dr. A. R. Neligan.

"A Case of Calculus Pyonephrosis Complicating Pregnancy," by H. Blakeway.

"A Strangulated Hernia containing the Appendix," by R. V. Favell.

LETTERS TO THE EDITOR

The Editor,
St. Bartholomew's Hospital Journal,
St. Bartholomew's Hospital,
London, E.C.1.

Sir,

While the quality and vigour of the medical profession in any country is not necessarily to be judged from the number of its publications, the statement of your contributor, Dr. Dobbin (*St. B.H.J.*, August, 1958, page 218) that, "in the whole of Australia, there are approximately eight medical journals," does less than justice to the journalistic activities of our colleagues in that Commonwealth.

Excluding those devoted to such paramedical sciences as biology, odontology, pharmacy and veterinary medicine, the 1957 edition of *World Medical Periodicals* lists no fewer than 20 journals published in Australia, to which may be added at least one other which has appeared during the past year. Of these 21 journals, eight are in the category of "General Medicine," while the remainder are concerned with surgery and the various specialities.

Yours faithfully,
DONALD CROWTHER,
B.M., B.Ch.,
Editor,
Abstracts of World Medicine.

To the Editor,
St. Bartholomew's Hospital Journal.

Dear Sir,

Gordon-Watson Memorial Lecture

I have received a letter from Mr. W. B. Gabriel referring to a patient—George Thomas (aged 32 in 1931), treated by Sir Charles for carcinoma of the Rectum by Radium. He recently attended the Out-patients at St. Mark's Hospital, City Road.

In 1931 a trans-rectus colostomy followed by a Radium and Radon needling was carried out. He was seen at that Hospital again in 1938 with a tight fibrous stricture of the rectum, and nothing more was seen of him until the beginning of September, 1958. He is reported as being very well, with no clinical evidence of recurrence, and his only complaint is some rectal discharge.

Mr. Gabriel says it seems clear that he has been cured for 27 years by Radium.

Yours,
RUPERT S. CORBETT.

The Editor,
St. Bartholomew's Hospital Journal,
London, E.C.1.

Dear Sir,

I thought you might be interested to see the enclosed letter which came from a 64 year old patient of mine suffering from diabetes mellitus, thyrotoxicosis and heart failure with fibrillation: I enclose a copy of the prescription she required!

Yours sincerely,
MICHAEL A. WELLER,
St. Bart's, 1943-1949.

Letter

Dear Sir,

Please will you send me on a Subscriptor one for brown & White Tablet & one for Testing in the water.

Your Truly
F.B.

Prescription

Tab. Digitalis folia grs 1. 1 B. d. 100
Tab. Phenobarbitone grs. 1/4. 1 t. d. s. 100.
Clinitest Refill Tablets 2107 mitte. 36.

Aldboro House,
Thaxted,
Essex.

Sir,

We are greatly troubled by the fact that a large number of nurses do not consider it worth their while to complete what should be a beneficial fourth year.

Contrary to popular belief, it is agreed that our salaries and length of hours are not subjects of discontent.

We feel that unrest arises when a nurse is sent to a department where she feels she is not personally suited.

We would like to feel that "belts" had a little choice in their appointment, perhaps the institution of a system whereby the nurse would apply to work in the branch of nursing of her choice.

Eight months spent in one department would instil a greater sense of contentment and loyalty in any new "belt" who, although living in an institution, would feel that she had been given some consideration as an individual.

These factors, and others of a lesser degree, are to some extent influencing nurses in their decision to leave the hospital after they have taken their State Examinations.

Yours faithfully,
JENNIFER A. BRETT and
F. NOBLE.

Nurses Home,
St. Bartholomew's Hospital,
London, E.C.1.

BOOK REVIEWS

AN INTRODUCTION TO SURGERY. By the Surgical Staff of the Middlesex Hospital, ed. by David H. Patey. Published by Lloyd Lake (Medical Books) Ltd., London. 17/6. pp. 228. Figures 54.

This little book is edited by one of London's most distinguished surgeons, authors and teachers. It sets out on a specific task—to be the text-book of the introductory course which bridges the gap between full clinical training and the pre-clinical instruction in anatomy, physiology and pharmacology. It is fair to say that this book has succeeded in being an illustration of such an introductory course, and will probably free the student from the burden of taking notes; it might, in fact, free the teachers from the responsibility of giving lectures in such a way that they can be recorded.

The book is published at a price of 17/6, but there is a cheaper student's edition at 9/6 with a paper cover, issued, in the words of the publishers, "as an answer to the friendly challenge contained in a *Lancet* annotation of 31st August, 1957." Apart from the difference in the covers, I can see no distinction between the two editions, and it seems a pity that the stiff cover at a cost of 8/- is almost the equivalent of the whole of the rest of the book.

Much of the book is a repetition of anatomical and physiological fact. This illustrates once more the unsatisfactory nature of the present pre-clinical course of instruction. If it is necessary to re-instruct students in the basic facts such as the presence of vaginal fornices and the vital capacity of the lungs, then the pre-clinical course has largely failed in its purpose of preparing students for clinical instruction.

The introduction and the glossary at the end are outstanding highlights of usefulness in the book. It is rather surprising that there is only a page and a half on shock, in view of the fact that shock is one of the most important states to be prevented, watched for and treated in all forms of surgery. Many of the line drawings are excellent, but some are, to my mind, a little pointless. For instance, there is a complete page of dotted rectangles illustrating blood loss, acute and chronic. As the legend is on the opposite page, the point of the illustration is largely lost and it is difficult to follow. In spite of the fact that this is for the introductory course, two operations are described in detail, circumcision and the removal of the sebaceous cyst. The technique advocated for the removal of sebaceous cysts certainly does not illustrate good surgical principles, and it is rather the method of the rural consulting room—that of cutting into a cyst, and then peeling it from its surrounding structures. Circumcision is an operation which should never be performed by a student, and which requires the most careful technique since, again, the methods in common use do not illustrate good surgical principles.

In conclusion, this book is an excellent one for the use of students in the introductory course, but we should look forward to the day when such a book would be acquired by students at least a year earlier in their course, so that some of their anatomical and physiological learning would appear to have a clinical application. Surely by the time the students takes the 2nd M.B. he should have some idea of the way in which the body adjusts itself physiologically to a loss of blood? If the publishers could produce this book with its stiff cover at 9/6, it would certainly have a wide sale.

D. F. ELLISON NASH, F.R.C.S.

A HANDBOOK FOR WARD SISTERS by Margaret Scales, S.R.N., S.C.M. Published by Bailliere, Tindall & Cox. Price 21/-.

This is the only book about ward management, and it must be welcomed as a serious and careful effort to formalise all the information that ward sisters hand on to each other verbally. No problems are avoided, and practical advice is offered on compiling schedules of work and arranging off duty. Reference is made to recent investigations into the work done by different nursing grades, and Miss

Scales is very sound on planning and placing of rooms, cupboards and sinks, and on details of ward hygiene.

Recommending lists of equipment is difficult in a situation where new techniques are constantly being evolved and old ones linger, but it seems unlikely that the ward sister will need to stock Burrell's flask, electric heat cradles or cyanide gauze. The suggestion that assorted stimulants be kept together on a emergency tray (page 178) is not in accordance with the Central Health Services Council's report on the care of drugs, neither does that report, which has been approved by the Minister, like medicine trolleys (page 179). The intravenous equipment (page 174) does not include needles and ligatures.

Such minor criticisms can be made of any textbook which sets out to give detailed practical advice, and do not detract from the value that the book has for any junior ward sister, or any senior one who is interested in knowing what her colleagues elsewhere are doing.

W. E. HECTOR.

EYE SURGERY, 3rd Edition, by H. B. Stallard. Published by John Wright & Sons Ltd. 916 pp. Price 95/-, postage 2/3.

The first edition of this book was published in 1946, and advances in technique in most branches of ophthalmic surgery have necessitated a second and, now, a third edition, which is considerably more comprehensive than its predecessors.

The character of the presentation is unchanged. A short account of the indications for operation is followed by a detailed description of a sound surgical procedure employed by the author, and then by descriptions of alternative operations of proved value. Dogmatism is thus avoided, and every section has much to offer both the novice and the experienced operator. In addition to the purely surgical chapters there are valuable sections on therapeutics, anaesthetics and sterilisation, and the information supplied throughout is detailed and up to the minute.

Illustrations are numerous, but some of the photographs of certain surgical procedures do not show up the points of technique with anything like the clarity of the author's own excellent line drawings.

This edition fully justifies the immense energy and patience which have gone to its compilation, and is a signal contribution to world ophthalmic surgery.

J.H.D.

RECENT PAPERS BY BART'S MEN

*ANDREWES, C. H. Viruses in health and disease. *Perspectives in Biology and Medicine*, 1, 1958, p. 211.

*— (and Chaproniere, D. M.). Factors involved in the susceptibility of tissues of various species to myxoma virus. *Virology*, 5, 1958, p. 120.

- *— (and others). Comparative serological studies on Talfan and Teschen diseases and similar conditions. *Brit. J. exp. Path.*, 39, 1958, p. 74.
- *APTHORP, G. H. (and others). Effect of acute carbon monoxide poisoning on work capacity. *Brit. med. J.*, Aug. 23, 1958, pp. 476-478.
- *ASTON, J. N. A case of "massive osteolysis" of the femur. *J. Bone Jt. Surg.*, 40B, 1958, pp. 514-518.
- BATES, D. V., see APTHORP, G. H. and others.
- *BATTEN, L. W. *Essence of general practice* (etc.), 1958.
- *BETT, W. R. Edward Tyson, F.R.S., M.D., F.R.C.P. (1650-1708): comparative anatomist. *Med. Press*, 240, Aug. 6, 1958, p. 760.
- *—, Haller the Great (1708-77). *Med. Press*, 240, Sept. 3, 1958, pp. 855-856.
- *—, Joseph Grindon, Sr. (1858-1950) of "Grindon's disease." *Med. Press*, 240, Aug. 20, 1958, p. 803.
- *—, Thomas Lauth (1758-1826) of "Lauth's Ligament." *Med. Press*, 240, Aug. 27, 1958, p. 826.
- *BOURNE, Geoffrey. Aerophagy of effort: a symptom of coronary-artery disease. *Lancet*, Aug. 23, 1958, p. 400.
- D'SILVA, John. Serum factors which maintain muscle sodium at low values. *J. Physiol.*, 143, 1958, pp. 22P-23P.
- DUFF, R. S. (and Ginsburg, Jean). Influence of intra-arterial hydrocortisone on adrenergic responses in the hand. *Brit. med. J.*, Aug. 16, 1958, pp. 424-427.
- *FRANKLIN, A. White. Iatrogenic disease in childhood. *Brit. med. J.*, Aug. 30, 1958, pp. 559-561.
- *HUBBLE, Douglas. Discussion on skeletal manifestations of general disease. *Proc. roy. Soc. Med.*, 51, July, 1958, pp. 475-479.
- *HUNTER, R. A. and MACALPINE, Ida. John Bird on "Rekets" (London, 1661). *J. Hist. Med.*, 13, July, 1958, pp. 397-403.
- KERSLEY, G. D. Nuclear warfare and the treatment of mass casualties. *Brit. med. J.*, Aug. 9, 1958, pp. 379-382.
- *KINMONTH, J. B. (and others). Studies of theatre ventilation and surgical wound infection. *Brit. med. J.*, Aug. 16, 1958, pp. 407-411.
- LEHMANN, H. (and others). Haemoglobin "Norfolk"; a new haemoglobin found in an English family. *Brit. med. J.*, Aug. 30, 1958, pp. 539-541.
- MACALPINE, Ida, see HUNTER, R. A. and —.
- *McMENEMEY, W. H. Alexander Philips Wilson Philip (1770-1874): Physiologist and physician. *J. Hist. Med.*, 13, July, 1958, pp. 289-328.
- *— (and Nevin, S.). A form of subacute encephalopathy of uncertain aetiology. *Proc. roy. Soc. Med.*, 51, July, 1958, pp. 535-539.
- *MAGNUS, H. A. Modern trends in the teaching of pathology. *Med. Press*, 240, Sept. 3, 1958, pp. 839-841.
- MARSHALL, Robert, see APTHORP, G. H. and others.
- MENDEL, David, see APTHORP, G. H. and others.
- MORGAN, Roger, see SHOENBERG, Elisabeth and —.
- SCOWEN, E. F. and others. Incorporation of carboxyl-carbon atom of glycine into oxalate in a case of primary hyperoxaluria. *Lancet*, Aug. 9, 1958, p. 300.
- SHOENBERG, Elisabeth and MORGAN, Roger. Starting a schizophrenic unit. *Lancet*, Aug. 23, 1958, pp. 412-415.
- *SPENCE, A. W. The diagnostic value of radiology in endocrine disorders. *Brit. J. Radiol.*, 31, July, 1958, pp. 341-345.
- STALLARD, H. B. Anterior flap sclerotomy with basal iridencleisis. *Trans. Ophthal. Soc. U.K.*, 77, 1957, p. 669.
- , Malignant tumours of the eye. In *Cancer*, ed. by R. W. Raven.
- , Resection and advancement of levator palpebrae superioris. Anterior approach. Some points in technique. *Trans. Ophthal. Soc. U.K.*, 77, 1957, p. 511.
- , Retinoblastoma treated by radioactive applicators. *Yearbook of the Turkish Ophthalmological Society*, 1958.
- , Retinoblastoma treated by radioactive disks. *18th International Congress of Ophthalmology*, 1958.
- , Symposium. Radio-active isotopes. Radio-active disks Co⁶⁰. *18th International Congress of Ophthalmology*, 1958.
- , Traumatic surgery of penetrating ocular injuries. Excision of the eye. Radio-active applicators. *Operative Surgery*, ed. by C. Robb and Rodney Smith.
- TODD, R. McLaren. Dipasic in the treatment of children suffering from primary

pulmonary tuberculosis. *Brit. J. clin. Pract.*, 12, Aug., 1958, pp. 568-570.

WATTS, R. W. E., *see* SCOWEN, E. F. and others.

- * *Reprints received and herewith gratefully acknowledged. Please address this material to the Librarian.*

SPORTS NEWS

VIEWPOINT

The writer has previously found it necessary to comment in "Viewpoint," on the reluctance shown by the secretaries of some clubs to submit reports to the *Journal*. Most of them, however, although at times a little tardy, have been very co-operative during their terms of office, and he would like to thank them for that. There have, unfortunately, been exceptions, and the total absence of reports in the Sports News from the only women's club active during the Summer is most regrettable. May he, therefore, make an appeal to the new secretaries of the Winter clubs on behalf of his successor. It is to the advantage of their clubs, as well as helpful to the Sports Editor, for their activities to appear in print frequently, and the ideal would seem to be short reports from each club monthly.



THE ALPINE CLUB

Four members of the Bart's Alpine Club have recently returned from a very rewarding and exhilarating fortnight in Chamonix, where several good rock ridges and snow climbs, including Mont Blanc itself, were achieved.

It is proposed to have a "beginner's meet" probably in North Wales, centred at the Climbing Club hut in the Ogwen Valley, during the second week in November. Any Spartans, who feel the call of the hills, will be very welcome, and should communicate with J. S. Mather, College Hall.

Every calibre of climber will be catered for, and a knowledge of the game of bridge and a taste for Worthington E would make any prospective climber doubly welcome at the meet, though these latter qualifications are not essential.

Prior to the meet, the club will have two or three of it's habitual day trips to the sandstone cliffs near Tunbridge Wells for loosening up.



CROQUET

The fate of Mr. Ellis's magnum of champagne has now been decided. It was won by Haslam and Davies, who beat Bowles and Sugden in a final which lasted almost six hours, and was spread over two days. Contrary to expectations, there were no surprising results during the earlier rounds, and the winners were undoubtedly the best pair in the competition.

Few aspects of the final could be called outstanding croquet, and both sides missed many short shots. This was not surprising, since the game was played on ground which changed its appearance and texture from that of a clay field, to that of a lush pasture between sessions, but never at any time resembled a lawn. The exception was the defensive play of both sides, which was very tight, and was responsible for the length of the game.

At the start it looked as though the eventual winners would have an easy passage, for their opponents quickly found themselves 12-2 down and out of play. From then on, however, fortunes changed, and by the end of the first session the position had been corrected to 13-11, with Davies and Haslam in play. At the resumption, then went to 15 and then out, and their opponents used their chance to draw level, but could not get ahead, and when put out were not given a further chance until both of the winners' balls were on the post. They, however, did not manage to peg out for a further hour, and at one time it looked as though they could lose. Finally a shot by Haslam, who took an optional lift and had, unfortunately, been left a double ball target, decided the matter.



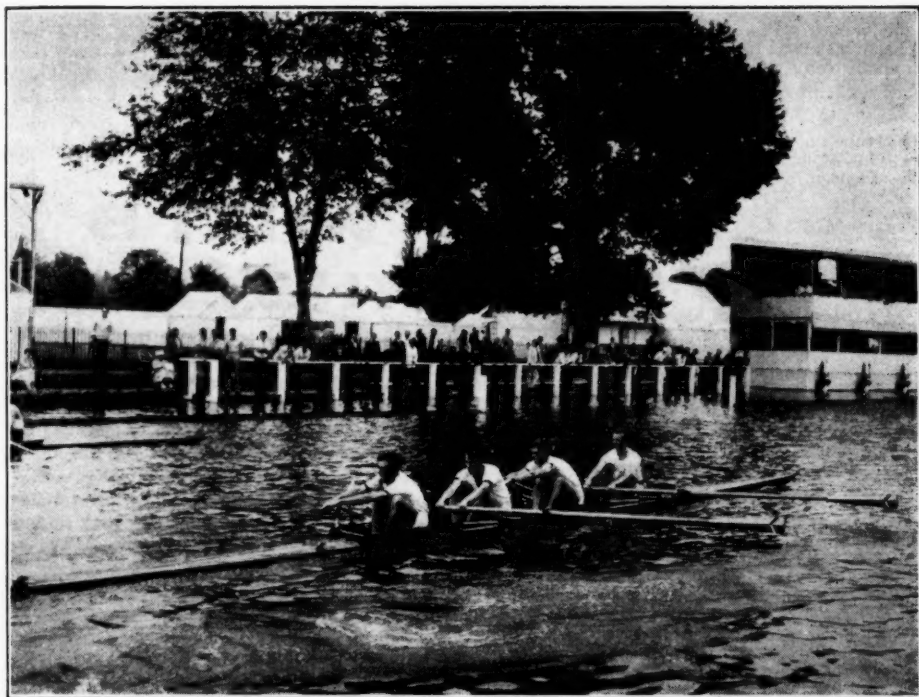
RIFLE CLUB

A full report of the seasons shooting will appear in the November issue of the *Journal*.



CRICKET

Sussex Tour, August 3rd to 8th
v. Hurstpierpoint on August 3rd, 1958. DRAWN.
Hurstpierpoint 162 for 9 dec.
Barts 127 for 9 (Harvey 42 n.o.).



St.B.H.B.C. Wyfold IV. Henley Royal Regatta

(Printed by permission of Geo. Bushell and Son)



v. St. Andrews on August 4th, 1958. **LOST** by 23 runs.
St. Andrews 143.
Bart's 120 (Davies 35).

v. Ditchling on August 6th, 1958. **DRAWN**.
Ditchling 114 for 9 dec.
Bart's 98 for 9.

v. Barcombe on August 7th, 1958. **WON** by 126 runs.
Bart's 184 for 7 dec. (Davies 42, Pagan 57).
Barcombe 58 (Garrod 4 for 16, Davies 4 for 9).

Once again the Cricket Club made its annual excursion into Sussex to renew many acquaintances, both on and off the field. The weather on this occasion proved very much against us so that, of the six matches, two were washed out and two others interfered with.

A side of mixed talents took the field against Hurstpierpoint, doing its best to throw off the effects of refreshment consumed on the journey from London. After an undistinguished effort to bowl the opposition out, Bart's batted equally ineptly, until Harvey rescued the side's fortunes with an excellent 42 not out, which enabled the match to be drawn. The following day, against St. Andrews, that com-

petent side was bowled out for 143, but again our batting failed, and only Davies succeeded in reducing the bowling to its true level.

At this stage the rain struck in earnest, and the match we had most been looking forward to, against Rottingdean, was cancelled.

Our efforts to record a win received a further setback when, having limited Ditchling to 114, we were forced, after a bright start, to conform to the progressively deepening gloom of the weather, by playing out time with our last pair at the wicket 16 runs short.

At last, despite the weather which did its best to foil our attempt at the last moment, a weak Barcombe side was overwhelmingly defeated, to provide the side with its only tour victory.

As a result of the rain, the social side of the tour was much increased. Indeed, on one occasion, the festivities were so violent and protracted that one may anticipate some difficulty in persuading landladies next year that Bart's students are not as black as they paint themselves. Of the vehicles available for our transport, one consistently boiled at every

opportunity and another was so lacking in spare parts as to be unuseable, except in an emergency. In this context we must extend our thanks to our old Bart's man from Brighton, without whose timely appearance some of our number must have been stranded for the night on one of the highest points in Sussex.

In conclusion, our thanks are due to Mr. Dear for his services as umpire, and to our long-suffering hosts in Rottingdean for the unfailing welcome they give us each year.

1st XI v. Bromley on 17th August, 1958. LOST by one wicket.

For our final match we were privileged to play in sunshine, on a hard true wicket, both of which commodities have been badly lacking during most of the season. Winning the toss, Bart's batted, and although scoring rapidly, lost wickets at regular intervals to some seemingly inaccurate seam bowling. Only Pagan seemed at ease and scored well until, aiming to drive, he pulled a half-volley on to his wicket. The final total appeared respectable was due in no small measure to judicious hitting on the part of the lower order batsmen.

Despite the paucity of bowling, Bart's were able to limit the early Bromley batsmen to a relatively low rate of scoring, and reaped their reward when the opposition collapsed from 51 for 3 to 86 for 7 wickets. Once again, however, the advantage was not pressed home, and with one wicket left, Bromley needed but three runs to win. At this point the match was won and lost, when Bart's wicketkeeper, over anxious and, no doubt, overwhelmed by stentorian appeals from all around him, dropped what for him, seemed an easy catch. Once again, as in our Cup defeat, it was adequately proved that a side which does not take its catches cannot win, however strong it may be in other departments.

Barts 140 (Pagan 32, Price 23).

Bromley 142 for 9 wickets.

1st XI v. R.N.V.R. on 27th July, 1958. WON by 7 wickets.

Batting first on a damp, slow wicket, the R.N.V.R. batsmen were soon in trouble against the medium-paced attack of Whitworth, Mackenzie and Davies. Apart from Cox, whose 49 was the mainstay of their innings, they showed little fight, and were dismissed for 131 by 3.30 p.m. Bart's had no difficulty in passing this total, Pagan contributing a solid and patient 48 and Whitworth a very quick 53. Indeed, the only threat to Bart's superiority lay in the inclement weather, there being four intervals for rain during the match.

R.N.V.R. 131 (Whitworth 5 for 31).

Bart's 132 for 3 (Pagan 48 n.o. Whitworth 53).



WHAT'S THE USE

A famous mathematician once proposed a toast: "To the higher mathematics, and may they never be of any damned use to anybody." Another mathematician said more recently that the subject had no practical value—that it could not be used directly to accentuate the inequalities of human wealth, nor to promote the destruction of human life. We do not know whether the early biochemists held such a pleasantly detached view of their researches, or whether, if anyone said, "What's the use?" they would hopefully reply, like Faraday, "What use is a newborn baby?"

Whether their words were modest or not, useful value has, in fact, come from their work. Spectacularly so in the matter of the functions of vitamins. Take vitamin B₁—in other words, thiamine. It has now been established that thiamine is essential for the oxidation of pyruvate. When thiamine is lacking, pyruvate accumulates. This can cause very unpleasant, even serious symptoms. Various neuropathies (for example, tobacco-alcohol amblyopia with its alarming blindness) are associated with thiamine deficiency. Even today in diet-conscious Britain, minor degrees of thiamine deficiency are by no means uncommon. Those who eat much carbohydrate need extra thiamine, as well as riboflavin and pyridoxine—indeed all the B-complex vitamins; and so do children when they are growing fast, and lactating and pregnant women, and girls slimming on slender diets. That is where Bemax is so useful. Being pure stabilized wheat germ, it contains all the B-complex vitamins, and is rich in iron and protein. You just sprinkle it on your food; Bemax goes well with cereals, curries, and a host of other dishes.

Issued in the interests of better nutrition by

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